

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DARPAN DINKER, MAHESH KANNAN, and
PRAMOD GOPINATH

Appeal 2007-2755
Application 10/074,092
Technology Center 2100

Decided: November 20, 2007

Before LANCE LEONARD BARRY, HOWARD B. BLANKENSHIP, and
STEPHEN C. SIU, *Administrative Patent Judges*.

SIU, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's
Final Rejection of claims 1-33. We have jurisdiction under 35 U.S.C.
§ 6(b). We affirm.

A. INVENTION

The invention at issue involves managing and storing data owned by members in a network. (Spec 1). Typically, clients storing or accessing data at nodes in a data store network are out-of-process with respect to a data manager and data store (i.e., operating as different processes) or are in-process with respect to a data manager and data store (i.e., sharing a same process). (*Id.* 1, 3). In an out-of-process node configuration, data transmitted across process boundaries is serialized before transmission and received in its serialized format. (*Id.*) Conversely, in an in-process node configuration, data is communicated between a data manager and a client that share the same process space. Hence, the data being transmitted need not be serialized prior to transmission. (*Id.* 4.) In a conventional system, all nodes in a network are in-process, or all nodes in a network are out-of-process. (*Id.*)

In contrast, Appellants' invention provides a distributed data storage network in which in-process nodes and out-of-process nodes may co-exist such that the network may include different node configurations within the same distributed system. (*Id.* 5).

B. ILLUSTRATIVE CLAIMS

Claims 1, 6, 7, and 10, which further illustrate the invention, follow.

1. A distributed data system, comprising:

a plurality of nodes coupled together, wherein each one of the plurality of nodes is coupled to at least one other one of the plurality of nodes for communicating data between the nodes, wherein the plurality of nodes comprises:

at least one in-process node comprising:

an in-process client; and

a distributed data manager, wherein the in-process client and the distributed data manager for the in-process node are configured to execute within the same computer process on the in-process node, and wherein the distributed data manager for the in-process node is configured to communicate data with the in-process client in a non-serialized format and communicate data with other ones of the plurality of nodes in a serialized format; and

at least one out-of-process node comprising an out-of-process client, wherein the out-of-process client is configured to execute within a different process than any distributed data manager, and wherein the out-of-process client is configured to communicate data with other processes or other ones of the nodes in a serialized format.

6. The system as recited in claim 1, wherein all data store operations performed by the distributed data manager in the in-process node store data in a non-serialized object format in a data store of the in-process node.

7. The system as recited in claim 1, further comprising a distributed data manager for the out-of-process node, wherein the distributed data manager for the out-of-process node is configured to communicate data with other processes or other ones of the plurality of nodes in a serialized format.

10. The system as recited in claim 7, wherein said out-of-process client is configured to send serialized data to the distributed data manager for the out-of-process node to store data, wherein the distributed data manager for the out-of-process node is configured to store the data in its serialized format.

C. REJECTIONS

Claims 1-9, 13-24, and 28-33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Appellants' Admitted Prior Art ("AAPA") and U.S. Patent No. 6,330,689 ("Jin"). Claims 10-12 and 25-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA, Jin and U.S. Patent No. 6,097,380 ("Crites").

II. CLAIM GROUPING

1 "When multiple claims subject to the same ground of rejection are argued as a group by Appellants, the Board may select a single claim from the group of claims that are argued together to decide the appeal with respect to the group of claims as to the ground of rejection on the basis of the selected claim alone. Notwithstanding any other provision of this paragraph, the failure of Appellants to separately argue claims which Appellants have grouped together shall constitute a waiver of any argument that the Board must consider the patentability of any grouped claim separately." 37 C.F.R. § 41.37(c)(1)(vii) (2006).¹

¹ We cite to the version of the Code of Federal Regulations in effect at the time of the Appeal Brief. The current version includes the same rules.

Here, Appellants argue claims 1-5, 7-9, 13-20, 22-24, and 28-33, which are subject to the same ground of rejection, as a first group. (App. Br. 10). Appellants further argue claims 6 and 21, which are subject to the same ground of rejection, as a second group and claims 10-12 and 25-27, which are subject to the same ground of rejection, as a third group. We select claim 1 as the sole claim on which to decide the appeal of the first group, claim 6 as the sole claim on which to decide the appeal of the second group, and claim 10 as the sole claim on which to decide the appeal of the third group.

III. CLAIMS 1-5, 7-9, 13-20, 22-24, AND 28-33

“Rather than reiterate the positions of parties *in toto*, we focus on the issue therebetween.” *Ex Parte Filatov*, No. 2006-1160, 2007 WL 1317144, at *2 (BPAI 2007). The question of obviousness is “based on underlying factual determinations including . . . what th[e] prior art teaches explicitly and inherently . . .” *In re Zurko*, 258 F.3d 1379, 1383 (Fed. Cir. 2001) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, (1966); *In re Dembiczak*, 175 F.3d 994, 998 (Fed. Cir. 1999); *In re Napier*, 55 F.3d 610, 613 (Fed. Cir. 1995)). “In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness.” *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993) (citing *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992)). “A *prima facie* case of

obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art.” *In re Bell*, 991 F.2d 781, 783 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051 (CCPA 1976)).

Here, the Examiner finds that AAPA discloses a system comprising an in-process node and a system comprising an out-of-process node as recited in claim 1 but does not disclose a system comprising “at least one in-process node and at least one [out-of-process] node.” (Ans. 4.) The Examiner further asserts that Jin discloses a “data system comprising . . . at least one in-process node and at least one [out-of-process] node” and that it would have been obvious to one of ordinary skill in the art to combine Jin with AAPA. (*Id.* 5.)

Appellants dispute the Examiner’s position and assert that “Jin does not teach or suggest a client executing within the same process as a distributed data manager.” Furthermore, Appellants assert that AAPA “teaches away” from the proposed combination of references. (Br. 12).

We disagree with Appellants’ assertion that AAPA teaches away from the proposed combination of references. What Appellants overlook is that it is not necessary that the inventions of the references be physically combinable to render obvious the invention under review. *In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. United States*, 702 F.2d 1005, 1013 (Fed. Cir. 1983); *In re Andersen*, 391 F.2d 953, 958 (CCPA 1968)); *see also In re Nievelt*, 482 F.2d 965, 968 (CCPA 1972)

(“Combining the teachings of references does not involve an ability to combine their specific structures.”). The test for obviousness is not whether the features of a reference may be bodily incorporated into the structure of another reference but what the combined teachings of those references would have suggested to one of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

Here, the Examiner does not assert that the features of Jin be bodily incorporated into the structure of AAPA. Instead, the Examiner asserts that the combined teachings of the references would have suggested to one of ordinary skill in the art the Appellants’ invention. The Appellants err by ignoring the relevant combined teachings of the references. *Andersen*, 391 F.2d at 958 (dismissing the argument that a combination would result in an inoperative structure).

In addition, AAPA discloses that conventional systems contain either in-process nodes or out-of-process nodes, but not both. (Spec. 4.) However, AAPA does not discourage or discredit a system containing both types of nodes. Rather, AAPA merely provides a description of alternatives of a conventional system. “The prior art’s mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed” *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004).

AAPA discloses that each of an in-process and an out-of-process data system was known in the art. Also, according to AAPA, it was known that transmission of data across process boundaries (i.e., in an out-of-process node) require serialization of the data before transmission (Spec. 3), which necessitated an “additional computation requirement.” (*Id.* 4). Similarly, it was also known in the art that an in-process system does not require serialization of data prior to transmission. (*Id.*) One of ordinary skill in the art with a known out-of-process data system and attempting to reduce the “additional computation requirement” of serialization of data would be confronted with a finite number of methods or systems to do so. In one such predictable solution, one of ordinary skill in the art would have included in-process nodes in the system, of which it was known that serialization is not necessary. Such a system would have provided one of ordinary skill in the art with an expectedly predictable result of a data system in which data can be stored and accessed by clients without an additional computation requirement. Such anticipated success of using known methods to achieve expected results would have been obvious to one of ordinary skill in the art. “When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1742 (2007).

In addition, Jin discloses a server process in which application managers run in-process or out-of-process. The in-process nodes and out-of-process nodes may run in the same system such that developers may “run either or both in-process and out-of process applications.” (Jin, col. 6, ll. 55-57). Jin further discloses the desirability of combining in-process nodes and out-of-process nodes in a system:

In-process applications allow maximum efficiency at the risk of bringing down the server in the event that the application is not stable. Alternatively, out-of-process applications are effectively isolated so that if an application fails, it should not affect the running of the server. However, this isolation benefit comes at the cost of lower performance when compared to an in-process application.

(Col. 6, ll. 48-55). Thus, Jin discloses benefits of combining in-process nodes and out-of-process nodes in a system. We therefore agree with the Examiner that it would have been obvious to one of ordinary skill in the art to have applied the Jin disclosure to AAPA at least to achieve the benefits of a system with maximum efficiency and an isolation benefit. Indeed, Jin discloses a system containing both in-process and out-of-process nodes seemingly for this reason.

Therefore, although we agree with Appellants that Jin does not disclose an in-process node comprising “a client and a distributed data manager configured to execute within the same process” (Br. 11), we agree with the Examiner that this feature is provided by AAPA (Ans. 17). In

addition, both AAPA and Jin disclose benefits and advantages of combining in-process and out-of-process nodes in a system.

It follows that Appellants have failed to demonstrate that the Examiner erred in rejection claim 1. Therefore, we affirm the rejection of claim 1, and of claims 2-5, 7-9, 13-20, 22-24, and 28-33, which fall therewith.

IV. CLAIMS 6 AND 21

As set forth above, we select claim 6 as the sole claim on which to decide the appeal of the group.

The Examiner finds that claim 6 would have been obvious over AAPA and Jin. Appellants argue that AAPA and Jin fail to disclose that “**all** data store operations . . . store data in a non-serialized object format in a data store of the in-process node.” (Br. 13).

We find that Appellants have not demonstrated that the Examiner erred in rejecting claim 6 over AAPA and Jin. As Appellants assert, AAPA discloses that data may be shared in an in-process node “without the additional computation requirement for serialization/deserialization.” (Spec. 4). AAPA also discloses that to “transmit data across process boundaries, data is serialized before transmission, transmitted and received in its serialized format.” (*Id.* 3.)

Hence, one of ordinary skill in the art, given AAPA, would have understood that 1) data transmission in out-of-process nodes requires

serialization of data, 2) serialization of data necessitates an “additional computation requirement” and 3) data transmission in in-process nodes does not require serialization of data. One of ordinary skill in the art would have further inferred that using in-process nodes may result in minimization or elimination of the “additional computation requirement” if data is stored in non-serialized format. Indeed, because it was known (based on AAPA) that in-process nodes do not require serialization of data and that using serialized data would have required an “additional computation requirement,” one of ordinary skill in the art would have understood that storing data in non-serialized format would have been advantageous. In fact, based on AAPA, there would have been no reason for one of ordinary skill in the art to store data in an in-process node in a serialized format. Thus, one of ordinary skill in the art would have stored all data in non-serialized format in an in-process node based on the AAPA disclosure.

As set forth above, when a system would have provided one of ordinary skill in the art with an expectedly predictable result or success, such anticipated success of using known methods to achieve expected results would have been obvious to one of ordinary skill in the art. *KSR Int’l Co.*, 127 S. Ct. at 1742.

It follows that Appellants have failed to demonstrate that the Examiner erred in rejection claim 6. Therefore, we affirm the rejection of claim 6, and of claim 21, which falls therewith.

V. CLAIMS 10-12 AND 25-27

As set forth above, we select claim 10 as the sole claim on which to decide the appeal of the group.

Appellants contend that the combination of AAPA, Jin, and Crites fails to teach or suggest that a “distributed data manager for the out-of-process node is configured to store the data in its serialized format.” (Br. 14). Also, Appellants argue that the combination of references fails to teach or suggest that “serialized data is sent from the client to a distributed data manager for storage.” (*Id.* 15).

As set forth above, AAPA discloses an out-of-process configuration in which “data crosses process boundaries” (Spec. 2) and that to “transmit data across process boundaries, data is serialized before transmission, transmitted and received in its serialized format.” (*Id.* 3.) Such data transmission includes data being transmitted “between distributed data managers 111 and clients 101.” (*Id.* 2-3.). The distributed data managers include “a data store 121 providing data storage for distributed data within the distributed system.” (*Id.* 1.) Hence, the distributed data managers store data in the data store.

One of ordinary skill in the art, based on AAPA would have understood that an out-of process storage system including data managers for storing data was known in the art and that data transmission of data stored in the data manager between a client and a data manager would require transmission of the data in serialized format. It would have been

obvious to one of ordinary skill in the art to provide the data in serialized format for transmission in an out-of-process storage system. This would have been obvious at least because data transmission of data in such a system requires the data to be in serialized format.

Given that data must be transmitted in serialized format from the data store, one of ordinary skill in the art would determine if data could be stored in serialized format in a database. Crites discloses data stored as media data streams that are supplied serially to client computers. Thus, Crites discloses that it was known in the art to store data in serialized format.

One of ordinary skill in the art, given the AAPA disclosure that data in an out-of-process system must be transmitted in serialized format would be confronted with a finite number of predictable solutions to achieve an expected result. In one predictable solution, data is stored in an out-of-process node in its serialized format. This would be obvious to one of ordinary skill in the art for reasons set forth above.

In addition, AAPA discloses that serialized data is transmitted in an out-of-process system “between data managers and clients.” (Spec 3.) Hence, we disagree with Appellants that AAPA fails to disclose serialized data sent from a client to a data manager.

It follows that Appellants have failed to demonstrate that the Examiner erred in rejection claim 10. Therefore, we affirm the rejection of claim 10, and of claims 11, 12, and 25-27, which fall therewith.

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VII. ORDER

In summary, the rejection of claims 1-33 under § 103(a) is affirmed.

No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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